Technical Operations

Use the technology to serve the HS Agency mission, keep it operating efficiently, and continuously collect and analyze data to identify opportunities for improvement.

Introduction

This guide defines the key activities, artifacts, and roles that are necessary to operate and sustain the deployed IT products, to gather information on their use, and to aid in their evolution within the usage environments. This entails administering to the operational needs of the products (database, user, network, security, or application administration).

Data is collected and analyzed to identify opportunities that improve overall technical capability. This may include data on defects, performance, cost of operations, user satisfaction, or other kinds of information. This information is used to guide further strategic management, Technical Architecture, and evolution planning and management decisions.

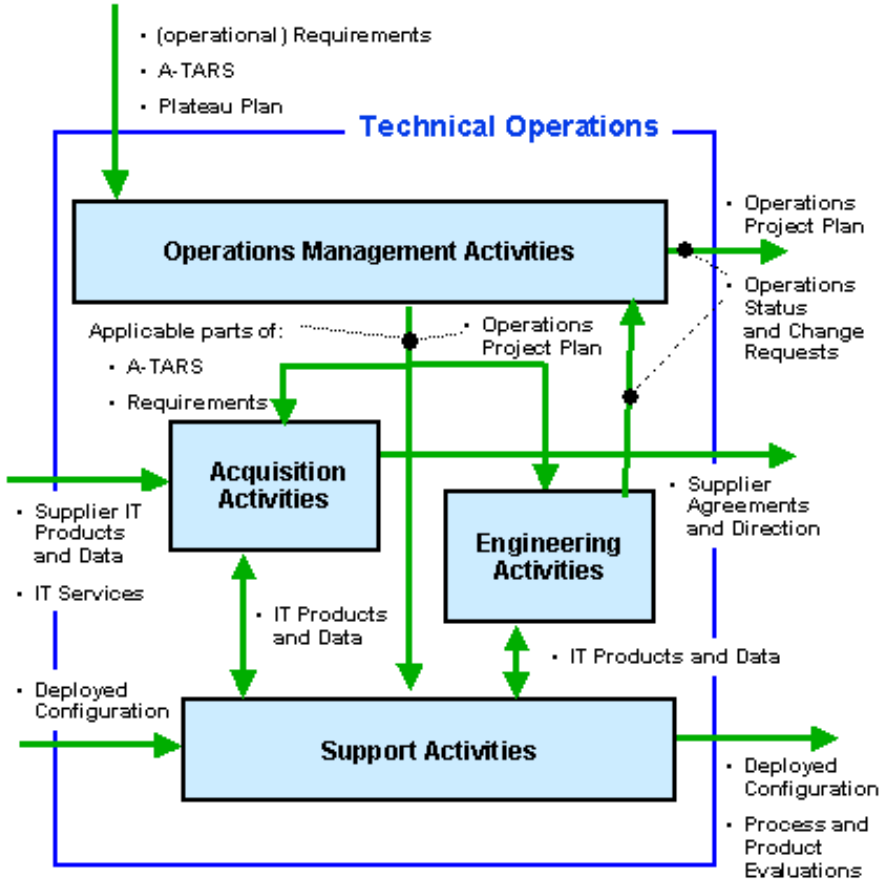
See the Organization of the IT Planning and Management Guides, which shows the relationship of the processes described in this guide with those of the other guides. Background is provided on the fundamental concepts and principles that apply across the guides. For information on how to customize this guidance, view the Application of the IT Planning and Management Guides pages.

Processes

The actions to operate and sustain the technology are achieved through one or more technical operations projects. Projects form the context for organizing, planning, executing, and tracking activities to keep the technology operating efficiently and effectively. Projects may specialize on a portion of the technology (networking, data, application), by site-location, HS program, or other, as necessary to direct and track actions and associated costs. Operations, fabrication, and deployment projects are coordinated with one another within and across plateaus by the IT Evolution Plan.

The common top-level activities are illustrated in the figure and described in the text below. Each operational project would consist of a mix of one or more of these activities.

- Consolidated Resources



The top-level categories of activities are:

1. Project Management. These activities include practices necessary to plan, monitor, control, and terminate technical operations projects.
2. Engineering Activities. These activities include technical life-cycle practices needed to operate and sustain the technology elements in the usage environments.
3. Acquisition Activities. These activities include those life-cycle practices needed to acquire or replenish any deployed products or obtain vendor-provided services necessary to keep the technical assets operational.
4. Support Activities. These activities include those life-cycle practices needed to establish a project environment supporting the other three sets of activities. This includes CM and QA practices.

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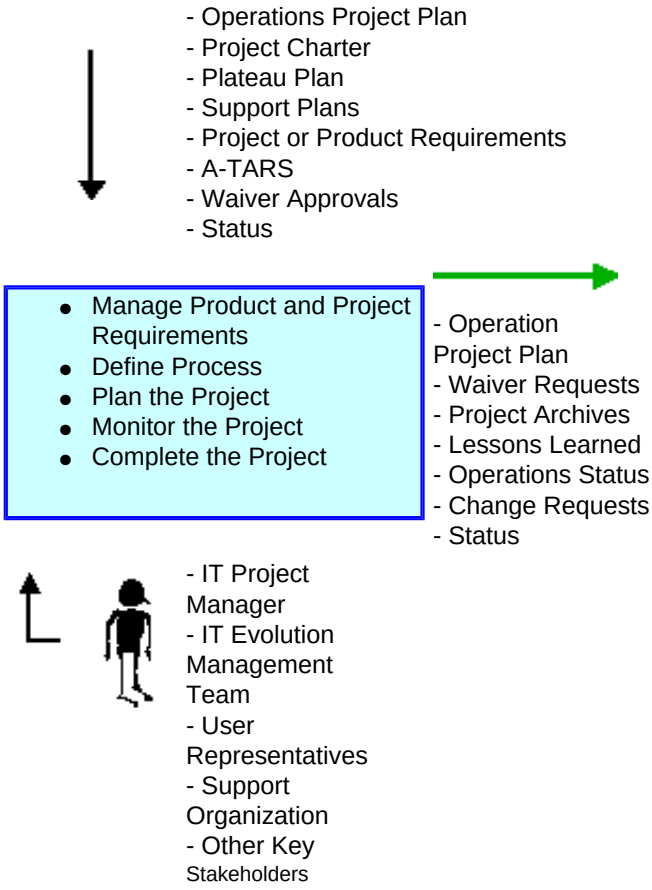
Form the technical operations project, manage its tasks, and coordinate with other fabrication and deployment projects, as needed.



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These activities are responsible for the life-cycle management of technical operations projects. Operations projects provide resources to effectively and efficiently operate and sustain the technical assets once they are deployed into the usage environments. Measurements are collected and analyzed on the quality and performance of the technical assets as well as the cost of operations. New technology needs are identified and forwarded as improvement requests to the IT evolution planning and management activities.

The lifetime of an operations project is generally for a single plateau. Because each

plateau represents a change in technical capability for the HS Agency, the resources to administer and operate the technical assets need to be reallocated to reflect each change. Operations projects overlap across plateaus to provide continuity.

Operations projects may be organized to provide support across all of the HS Agency, for a specific site (a county), or by technical specialty (help desk, database administration, computer operations, network operations). Projects may be individually managed, or managed as a set.

These projects primarily consist of event-driven, level-of-effort activities rather than having preplanned tasks. Periodic and routine activities may be scheduled and tracked, as appropriate.

The set of operations projects, their responsibilities, and interproject relationships are documented in the IT Evolution Plan. Project-level plans detail each project's responsibilities.

TANF Example:

State TANF systems generally operate in a networked environment, sharing networking resources with other HS programs. Technical support management must consider how it will track network charges and operational costs. Management should determine required cost allocations to application systems that are funded from various sources at the federal level. For example, measures of actual network traffic may be used as a basis of applying charges to each program.

Current and projected network capacity and throughput should be analyzed prior to deployment of application systems. The analysis should be based on monitoring the actual flow and volume of network traffic, before and after deployment. The needed bandwidth is often underestimated, and the unanticipated cost to acquire more may significantly impact the operational budget.

With many States considering outsourcing of network operations, contractors will increasingly handle much of the operational functions for the Agency. Technical support management will increasing depend on its skills to identify and select operational support contractors, as well as monitor and assure the quality of services they provide.

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Activities

The basic fabrication management activities also apply to the operations projects. You may refer to those activities for additional detail. Actions applicable to operations projects are described below:

- **Manage Product and Project Requirements.** These requirements may focus on operation services and quality, such as availability or response times. Preventive and corrective maintenance actions must be coordinated with the user community to minimize impact on business users. Service requirements may affect scheduling of server reboots, data backup, vendor maintenance and upgrades, or even the training operations staff.
- **Define Process.** The IT Project Team will establish the processes and detailed procedures that will be followed to support and sustain the IT products and data in the operational environment. Minimally, this includes key activities that are critical to maintaining the integrity and efficiency of the deployed IT products and data.
- **Plan the Project.** The IT Project Team will establish and maintain a detailed operations plan. The plan must provide adequate resources to account for new, significantly modified, or retired technical assets and the level of service the users expect. Planning can be started once the developmental configuration for the plateau is defined and revise it to account for the specifics of a deployment.
- **Monitor the Project.** The IT Project Team will collect and analyze operations activities data on the performance and cost of ownership for the technology, including any external service providers (measures against quality of service commitments). Periodically they should survey the user and operations personnel. This survey allows them to identify improvement opportunities for technical services and assets. Information from these surveys is provided to the IT evolution planning and management evolution planning and management activities.
- **Complete the Project.** The IT Project Team will terminate an operations project if the technology or systems the project sustains is being retired. The project will be replanned when significant IT changes are made. The team should collect and analyze lessons learned periodically.

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- IT Project Manager. This individual has primary responsibility for these activities. The IT Project Manager may be assisted by an IT Project Team, an Estimation Analyst or a Contract Manager, as needed. An IT Project Manager may manage one or more operations projects simultaneously.
- IT Evolution Management Team. These individuals, specifically the IT Evolution Manager, have oversight responsibility for these projects. The IT Project Team coordinates with the IT Evolution Management Team when planning and controlling the operations project.
- User Representatives. These individuals collaborate with the IT Project Team to provide user perspectives, helping to establish the operational schedules and support needed (quality of service expectations).
- Support Organization. Individuals with expertise in the QA or CM disciplines assist the management staff. They participate in the early project planning activities and provide oversight of the project practices and developing products.
- Other Key Stakeholders. Any group or individual with a vested interest in the operations project performance. This includes representatives of IT Project Teams from other interdependent projects, the Technical Operations Support Team, and

HS Program users and management staff. All coordination is controlled via the Operations Project Plan.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting these items are available through the Additional Resources section at the end of this page.

- Operations Project Plan. These work-level plans are the main product of these activities, updating the previous version, if it exists. They are used to guide the execution of all technical operations project activities, to coordinate actions with the stakeholders, and to report progress.
- Project Charter. The project charter sets the scope and explains authorities of the project management. It is the foundation for the management approach.
- Plateau Plan. The appropriate portion of the IT Evolution Plan identifies constraints and expectations for the project with regard to other projects. Operations Project Plans must be consistent with it.
- Support Plans. These Configuration Management and Quality Assurance Plans are integrated into the overall Operations Project Plans.
- Project or Product Requirements. This consolidates all the operational requirements and expectations imposed on the project from all sources: IT Evolution Plan, the HS Program, HS IT Division, the Project Charter (constraints), and others. These requirements are used as a basis of defining and planning the project. Project success is defined by how well the requirements are satisfied. Plans are appropriately updated when any of these change.
- A-TARS. The appropriate part of the A-TARS is used to guide technical management decisions for the project.
- Waiver Requests. Projects file waivers to be relieved from mandatory A-TARS requirements.
- Waiver Approvals. Projects receive formal approval when they deviate from the A-TARS.
- Status. Activity progress and issues from engineering, acquisition, or support activities are used to manage project activities. Project status is summarized and provided to the IT Evolution Manager and other oversight authorities on a periodic and event-driven basis.
- Project Archives. Technical and management data from a project is archived for later analysis. This may be done periodically (every 6 months), or when transitioning from one plateau to another.
- Lessons Learned. These are formally captured and disseminated either periodically or at project completion.
- Change Requests. Any request to change the deployed configuration is documented and analyzed. The request will be routed to the IT evolution planning and management activities for disposition, such as scheduling a maintenance change into a future release.
- Operations Status. Operational data is collected and analyzed as a basis of measuring effectiveness and cost of operations, as well as identifying improvement opportunities.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the fabrication project management resources also may be used to perform the operations project management activities. Lists of all available resources may be found in the Resources portion of the IT Planning and Management Guides.

Checklist: Technical Operations 04-04-02
A tailorable checklist to use for identifying items that may affect the technical operations.

HTML Format

Template: Project Charters 02-01-02
Template for developing the charters for projects covered by the IT Evolution Plan.

MS Word Format
HTML Format

Example: Risk Management Plan 02-01-02
Example of a Risk Management Plan that defines a specific risk analysis and management process.

MS Word Format

Guidelines: Development of a Work Breakdown Structure (WBS) 02-01-02
Lists the steps in the development of either an activity-based WBS or a work-product-based WBS.

MS Word Format

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B. Engineering Activities

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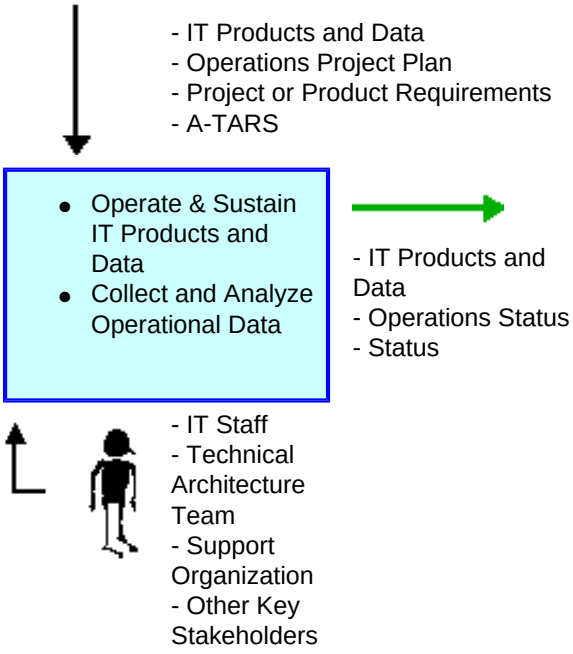
Provide technical support to administer the applications, data, platforms, and networking to keep them operating efficiently and effectively.



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Introduction

These technical activities are performed in the context of one or more technical operations projects. Individuals provide technical support to operate and sustain the deployed IT products. This typically includes platform, application, database, user, security, or network operation and maintenance actions. Documentation associated with the operation of the IT products is kept current (e.g., detailed operating procedures, scripts, log files, user announcements).

Performance and defect data are periodically collected and analyzed, which may include surveys of the technical infrastructure and its use. These surveys are similar to those done to support strategic IT planning and management. This operational information is used to evaluate the efficiency and effectiveness of the installed products and related IT services, and is provided to the evolution planning and management activities. Operational information is used to guide further strategic management, Technical Architecture, and evolution planning and management decisions. This could result in additional maintenance actions, requests for enhancements, upgrades, or retirement of applications or equipment.

Engineering practices, as well as overall adjunct technical operation requirements, are derived from the A-TARS. Unique support requirements are elicited from the HS programs staff. All product and process requirements are communicated through each project's operations plans.

TANF Example:

Many TANF tasks are time critical, where processing must be performed within an allocated time frame. Deteriorating application performance may affect TANF processes as well as other dependent systems. Application performance is therefore a key parameter that should be monitored. Performance analysis can be used to determine when processing thresholds may be exceeded, and the preventive actions to be taken. Monitoring may include periodic batch jobs (i.e., batch window) as well as on-line access.

Performance concerns extends beyond the application processing. Introduction of any new equipment may have an impact. Speed and reliability of printers, for example, can have a significant impact on the TANF program's ability to process notices, checks, or other correspondence during required time periods. Engineering staff must consider the end-to-end business processes and carefully plan any modifications that may have a ripple effect on the business process.

Disaster recovery and business continuity is a major concern in today's world. Business Continuity Planning efforts include both risk mitigation and contingency planning elements. The risk mitigation efforts are aimed at reducing the likelihood that risk conditions will actually occur. Contingency plans provide strategies to compensate and work around the change of inputs, threats from external events and loss of resources. They allow the organization to accomplish its critical business process and to continue to supply its essential product or service. Contingency plans remain in effect until normal operations are restored.

The following guiding principles may be used to set functional priorities for selecting and developing specific contingency and risk mitigation plans:

- Continue payments to ongoing TANF families on a monthly cycle.
- Continue accepting new applications, being able to conduct intake at existing facilities or at an alternative site.
- Continue to determine eligibility and calculate benefits based on financial and non-financial eligibility criteria.
- Be able to refer TANF applicants to other HS programs to establish cooperation.
- Be able to refer and/or determine work requirements for TANF applicants.
- Continue Case maintenance by monitoring and tracking cooperation with employment and job training activities to

maintain eligibility. This includes being able to accept Case changes, such as address and household composition changes.

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Activities

The basic fabrication engineering activities also apply to the operations projects. You may refer to those activities for additional detail. Some technical activities applicable to operations projects are described below:

1. **Operate and Sustain the IT Products and Data.** The technical staff performs activities that keep the deployed IT products and data operating effectively and efficiently. This may include:

    - **Application administration.** The IT Staff ensures the proper configuration and operation of business-specific and general-purpose applications (e.g., caseworker applications, office automation, and e-mail).
    - **Data administration.** The IT Staff ensures the proper retention and protection of business and technical operations data (e.g., backup-restore of databases, access, Web logs). They should also monitor the network infrastructure as needed (addressing-naming, routing, firewall settings, intrusion detection, network utilization and performance monitoring).
    - **Platform administration.** The IT Staff provide for planned and unplanned computer maintenance by having detailed procedures for managing these events, reducing any impact to the users (e.g., startup-shutdown, upgrades, preventive maintenance, failure recovery, diagnostics, and desktop configuration).
    - **User administration.** The IT Staff provides technical support to users in an effective manner (e.g., help desk-call center, operation notices, and user account management).
    - **Operator administration.** The skills and knowledge of the IT Staff should be reviewed and updated as needed (i.e., operator training).

2. **Collect and Analyze Operational Data.** The technical staff collects and uses technical performance measures to manage the effectiveness and efficiency of the deployed IT products and data. This will include:

    - **Collect performance measures.** The IT Staff will collect operational measures periodically (e.g., CPU utilization, disk usage, network utilization, file system access, and events).
    - **Collect defect data.** The IT Staff will collect data on defects and other planned and unplanned corrective maintenance actions periodically (e.g., hardware, software, network failures, response times, and availability).
    - **Conduct usage assessments.** The IT Staff will collect information on the efficiency and effectiveness of the operational systems and IT services periodically (e.g., satisfaction surveys, cost of operations, availability).
    - **Analysis.** The IT Staff will compile, analyze, and report the state of operations to appropriate decision makers (e.g., anticipated growth rates and

defects identified per unit time after deployment).

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- IT Staff. These individuals perform the technical activities. They have the technical skills and knowledge to keep the IT products operating efficiently.
- Users. These individuals interact with the IT staff, providing feedback on their use of the technology products (help desk requests). Users also receive training and other services from the IT staff as needed.
- Support Organization. Individuals with expertise in the QA or CM disciplines oversee the operation activities to maintain the integrity of the Deployed Configuration and assure that critical procedures are followed.
- Other Key Stakeholders. Any group or individual with a vested interest in using a deployed product. This includes representatives of IT Project Teams from other interdependent projects and HS program users and management staff.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting items are available through the Additional Resources section at the end of this page.

- IT Products and Data. This is the main result of these activities. These are updated to include operational changes needed for system management and administration (run-time data such as logs, user accounts, and configuration parameters). Changes are documented, managed, and controlled, as necessary.
- Status. This data is periodically collected, analyzed, and reported to management for review.
- Project or Product Requirements. These are allocated to the technical tasks to ensure that operations actions meet HS Agency and HS program needs (level of service expected).
- A-TARS. Technical guidelines from the A-TARS are used as the basis of technical practices for the operations project (operating procedures and convention).
- Status. Technical progress and issues are reported to the project management activities. Status is checked against the activities in the Operations Project Plan.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the fabrication project engineering resources as well as the deployment project engineering resources also may be used to perform the operations engineering activities. Lists of all available resources may be found in the Resources portion of the IT Planning and Management Guides.

Checklist: Technical Operations 04-09-02
A tailorable checklist to use for identifying items that may affect operations.

HTML Format

Guidelines: Assess Existing IT Qualities 04-23-01
A collection of checklists and guidelines to evaluate the usage and maintenance qualities of the HS Agency IT.

HTML Format

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C. Acquisition Activities

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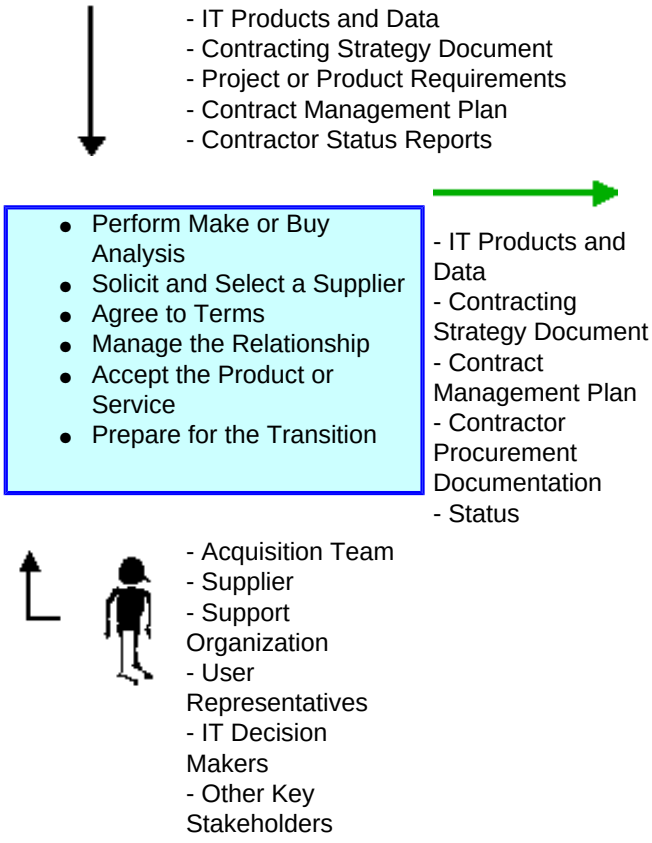
Manage the acquisition of custom or commercially available products or services that assist with operating and sustaining the deployed systems.



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Introduction

These acquisition activities can be performed within the context of each technical operations project, or as a single project serving many other projects. These activities establish and manage a formal agreement to obtain IT products and services from suppliers external to the HS Agency. Although any type of technology element can be obtained, these activities typically consider:

- Items needed to operate and administer the deployed IT products
- New or replacement platforms or equipment
- Supplies
- Documentation

- Licensing
- Service contracts

For additional insight, refer to the technology fabrication acquisition and deployment acquisition activities.

TANF Example:

Many States are considering or have already outsourced part of their TANF operation. Measurable service or performance goals and thresholds should be part of the outsourcing contracts. Organizations must be able to objectively monitor performance to insure that the level of service that is provided meets the requirements of the TANF organization. In the absence of acceptable performance, clearly defined escalation processes should be used to resolve issues and quickly restore the minimum performance level.

When acquiring outsourced or contracted services, some key items should be addressed in setting up the relationship. The goal is to limit operational risk and provide the Agency flexibility. The source of this risk is a planned (or unanticipated) change in a vendor or contractor. For example, operational licenses or agreements for software, equipment, or network services should convey and become property of the State if a supplier is terminated. Even a planned transition requires careful preparation. Both the State and the supplier must have the management processes in place to allow for a systematic change if necessary (e.g., documenting key procedures and staff roles and responsibilities).

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Activities

The basic fabrication acquisition activities also apply to the operations projects. You may refer to those activities for additional detail. Actions applicable to operations projects are described below:

- **Perform Make or Buy Analysis.** The Acquisition Team will consider purchased tools, equipment, or services needed to administer, operate, or maintain the installed IT products (e.g., network monitors, user account management, diagnostic tools, and operations support contractors).
- **Solicit and Select a Supplier.** The Acquisition Team will consider the best candidate suppliers based on state regulations and competition considerations for overall best value. The Acquisition Team should not automatically select those that supplied the IT products that were originally deployed.
- **Agree to Terms.** The Acquisition Team will consider the best terms and conditions necessary to provide the expected level of support for the operational systems. The appropriate type of contract should be determined based on the acquisition risks

(e.g., firm fixed price, task order, cost plus).

- **Manage the Relationship.** The Acquisition Team will consider the best way to manage service-based agreements, such as using individuals to augment the operational support staff (e.g., computer operators and help desk).
- **Accept the Product or Service.** The Acquisition Team will consider the delivery and acceptance of products and services needed to administer and sustain the operational systems (e.g., prerequisite skills and knowledge for operators or administrators, and response time).
- **Prepare for the Transition.** The Acquisition Team will consider what must occur for use of the products or services by the operations project or the end user.

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- Acquisition Team. The Contracting Officer and the Project Officer have primary responsibility for the acquisition activities.
- Supplier. These individuals, from outside the HS Agency, provide the IT products and services. They may include contractors; vendors; or other State Agencies or organizations, as necessary.
- Support Organization. These individuals provide oversight of the processes used by the supplier and manage the configuration and quality of the delivered products and services. They also ensure that key acquisition procedures are followed.
- User Representatives. Individuals that are part of the operations projects, such as the IT staff or user, are the primary recipients of the acquired products and services. User representatives convey needs to the Acquisition Team.
- IT Decision Makers. These individuals have authority to select and enter into agreements with the suppliers. They may include members of the IT Evolution Management Team, the HS IT Division, or other executives (CIO).
- Other Key Stakeholders. These individuals support the acquisition activities by providing subject matter expertise, as needed. They may include IT staff, users, Technical Architecture Team members, and IT project team, among others.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting these items are available through the Additional Resources section at the end of this page.

- IT Products and Data. This is the main result of these activities. Products are received from the suppliers and placed under CM.
- Contracting Strategy Document. This document is prepared as the result of a make or buy analysis and used to guide the solicitation, selection, and management of the

suppliers. This document may have been prepared for a fabrication or deployment project, in which case it will be updated.

- Project or Product Requirements. These are allocated to the acquisition tasks to guide the technical and nontechnical criteria for the acquired products or services. These are allocated through the Operation Project Plan. This includes the appropriate parts of the A-TARS.
- Contract Management Plan. This document is produced and used to manage the supplier relationship. This document may have been prepared for a fabrication project, in which case it will be updated.
- Contractor and Procurement Documentation. This documentation includes the supplier agreements and obligations, including the contract, legal terms and conditions, the SOW, licenses, and other formal agreements.
- Contractor Status Reports. The supplier furnishes this information, indicating progress and issues against the supplier's plans.
- Status. Status is reviewed against the Contract Management Plan and any supplier issues are analyzed, consolidated, and forwarded to the project management activities for review.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the fabrication project acquisition resources as well as the deployment project acquisition resources may be used to support the operations acquisition activities. Lists of all available resources may be found in the Resources portion of the IT Planning and Management Guides.

Checklist: Technical Operations 04-16-02
A tailorable checklist to use for identifying items that may affect operations.

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D. Support Activities

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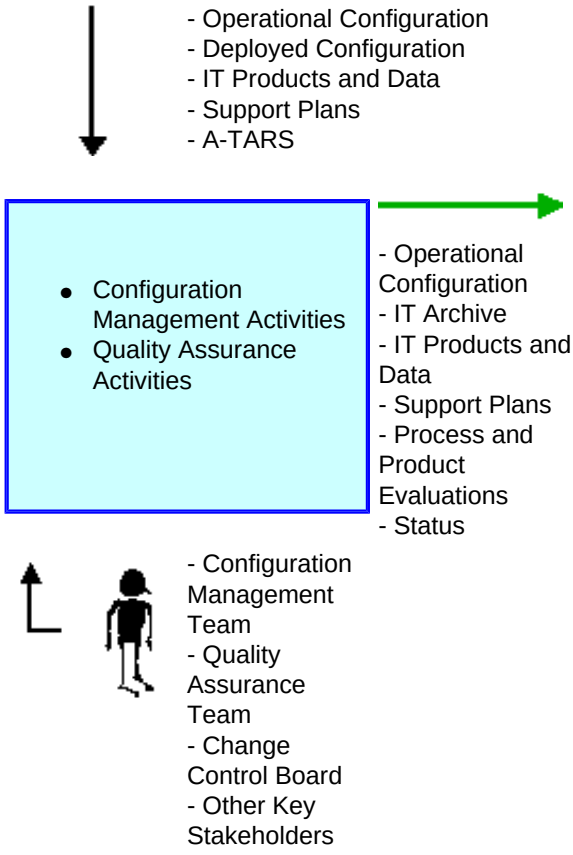
Provide technical support to the operations projects to help manage the as-used technical configuration and its quality.



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Introduction

These support activities can be performed within the context of each technical operations project or as a single project providing support services to many other projects (a CM or QA project). These activities provide support to the management, engineering, and acquisition activities by:

- Managing changes to the IT products and data once they are installed and begin to be used. This establishes the operational baselines, allowing a site to return to a previous operational configuration if needed.
- Objectively reviewing and auditing the processes and products of the technical

operations projects to establish expectations about their quality.

For additional insight, refer to the technology fabrication and deployment support activities.

TANF Example:

As States move their TANF applications to the Web, they become vulnerable to attack (denial of service or virus based). Part of a defense is to apply the latest security patches and virus software updates. Applying and tracking patches and updates across a large TANF organization is challenging. Sound configuration management practices must be established to ensure that the appropriate patches are identified, tested, installed, and used on workstations and servers as soon as possible.

A major challenge facing TANF organizations is managing State-wide deployment of applications across hundreds of sites, with large numbers of users at each site. Due to cutbacks, many States are outsourcing their technical support services. The performance of the providers should be monitored by State Quality Assurance staff, especially the time to respond to and resolve user technical issues. QA staff should frequently review and monitor critical workstation or server uptimes to determine if they are restored and functioning within the time constraints required. Availability goals should be defined and results periodically reported by the contracted support organizations.

Security and privacy of TANF information is a significant operational concern. This extends to TANF field offices as well as any main facilities. Quality assurance may extend its technical reviews and audits to periodically conduct field reviews to assess information security practices (not writing down passwords, protecting information on laptop computers and removable storage). Quality assurance can review security related technical procedures and verify that they are being adequately followed, such as minimum password length and frequency of password changes (e.g., the system login software requires a user to change their password every 90 days).

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Activities

The basic fabrication support activities also apply to the operations projects. You may refer to those activities for additional detail. Actions applicable to operations projects are described below:

- **Configuration Management Activities.** The Configuration Management Team will:
  - Periodically review or audit the installed applications (or parts) to ensure that

they are consistent with the deployed configuration (component or packaged solution versions, licensing).
    - Periodically establish an operational baseline, such as backing up parts of the system before and after major changes (upgrades, new application versions).
    - Manage off-site storage, data protection and other critical resources (logs).
    - Track run-time parameter changes (reconfiguring network, database parameters).
    - Track and appropriately handle emergency patches made in the field, ensuring that they are reported and used to update the developmental configuration.

- **Quality Assurance Activities.** The Quality Assurance Team will:
    - Review or audit adherence to key operating procedures (backup, network security, user administration).
    - Conduct quality appraisals of the installed infrastructure and applications to help determine there effectiveness and efficiency. They should obtain suggestions for improvement (user satisfaction surveys) and publish the results.

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Roles and Responsibilities

The key roles and their responsibilities are as follows:

- Configuration Management Team. These individuals have primary responsibility for performing the CM activities for one or more projects.
- Quality Assurance Team. These individuals have responsibility for performing the QA activities for one or more projects.
- Change Control Board. These individuals approve the release of IT products for each site. They also review and approve significant changes to IT products after they are released. Individuals on the Change Control Board may include the IT Decision Makers, the IT Evolution Manager, the HS Program Manager, and other interested parties.
- Other Key Stakeholders. This includes any group or individual with a vested interest in the performance or status of the support activities. Stakeholders may include the Pilot Team, the IT staff, Users, or others who interact with the support personnel. Stakeholders also may include IT Project Manager, the IT Evolution Management Team and other senior managers (CIO) and technical persons (Chief Architect). Stakeholders receive insight into the status of these support activities, as necessary, to understand the operational configurations, changes, and overall qualities.

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Artifacts

The following information is used or produced by these activities. Templates, examples, and checklists for identifying and documenting these items are available through the Additional Resources section at the end of this page.

- Operational Configuration. This is a major output-the as-used set of IT products and data at a point in time. It may be necessary to go back to these checkpoints in emergencies (a change to an application or part is not backwards-compatible with another application).
- Deployed Configuration. This is a major input to these activities-the initial as-installed set of IT products and data before operational parameters are adjusted.
- IT Archive. When IT items are taken out of service and cannot be immediately destroyed, they will be archived and controlled.
- IT Products and Data. Operational parameters for these items are adjusted (tuned) as part of daily operations (application configurable data).
- Support Plans. All support tasks are managed formally according to their appropriate specialty plans, such as the Configuration Management Plan or the Quality Assurance Plan. These specialty plans augment the overall Operation Project Plans. Project or product requirements allocated to the support tasks are delegated through the support plans.
- A-TARS. Applicable parts of the A-TARS will influence the support activities. The A-TARS: Technology Guidelines may include support-specific practices that QA activities will review or audit.
- Process and Product Evaluations. The results of QA reviews and audits are distributed to the appropriate individuals. Issues that cannot be resolved at the working level are elevated to the operations project and IT Division or other executive management, as necessary.
- Status. Progress and issues are forwarded to the project management activities. Status is checked against the activities in the appropriate Support Plan.

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Additional Resources

Resources applicable to this activity are cataloged below. Some items from the fabrication project support resources as well as the deployment project support resources may be used to perform the operations support activities. Lists of all available resources may be found in the Resources portion of the IT Planning and Management Guides.

Checklist: Technical Operations 04-16-02
A tailorable checklist to use for identifying items that may affect operations.

HTML Format

Guidelines: Assess Existing IT Qualities 04-23-01
A collection of checklists and guidelines to evaluate the usage and maintenance qualities of the HS Agency's IT.

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  - Engineering
  - Acquisition
  - Support
  - Resources
    - Tech Ops Checklist

This consolidated list of resources can be applied to perform technical operations project activities. Technology fabrication project and technology deployment project resources also may be adapted to operations projects. The date reflects the last time the item was changed. NEW indicates an item added since the last release of the IT Planning and Management Guides.

NEW **Checklist: Technical Operations** 04-04-02
A tailorable checklist to use for identifying items that may affect the technical operations.

HTML Format

Template: Project Charters 02-01-02
Template for developing the charters for projects covered by the IT Evolution Plan.

MS Word Format
HTML Format

Example: Risk Management Plan 02-01-02
Example of a Risk Management Plan that defines a specific risk analysis and management process.

MS Word Format

Guidelines: Development of a Work Breakdown Structure (WBS) 02-01-02
Lists the steps in the development of either an activity-based WBS or a work-product-based WBS.

MS Word Format

Guidelines: Assess Existing IT Qualities 04-23-01
A collection of checklists and guidelines to evaluate the usage and maintenance qualities of the HS Agency's IT.

HTML Format

Have Something to Contribute?

We are always looking for a "few good things"... If you have something that you were looking for, or would like to contribute for others to leverage, please contact the IT Planning and Management guide team at statesystems@acf.hhs.gov

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Checklist: Technical Operations Issues

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Synopsis

The following checklists identify key management, engineering, acquisition, and support issues to address during technical operations.

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Management Activities Checklist

☑	Adequate technical resources are available (full-time, part-time, or contracted) with skills in key areas such as network operations, telecommunications, computer platform operators, database management system, information security, QA, and applications (e.g., common user tools and customer technical support).
☑	The Operations Project Plan clearly states operational goals and their measures (e.g., cost of operations, defect collection, service performance).
☑	The Operations Project Plan references documented procedures that will be followed to ensure integrity, availability, security, or other key quality attributes of the operational systems. This may include detailed procedures for rebooting servers, backing up data, securing data, reviewing and analyzing system logs (user access, security events), vendor maintenance, or applying application or system updates (security patches).
☑	Measures to identify opportunities to improve the technical operations services and the technical assets are identified and tracked.
☑	Operators and support staff receive periodic training or orientation on the technology and the business domain (policies) as relevant to their responsibilities.

- ☑ Periodic assessments (surveys) of user satisfaction are planned and conducted.

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Engineering Activities Checklist

- ☑ All supporting documentation is updated, as necessary, to reflect incremental changes to the operational configuration.
- ☑ System response times and degradation are monitored and managed, especially for anticipated high-usage periods. Capacity and resource utilization is monitored, and critical reserves are managed.
- ☑ Detailed procedures are defined and followed to identify, assess, install, and verify critical (security) patches released from vendors.
- ☑ Technical staff has adequate resources to support the identification and diagnosis of faults.
- ☑ Electronic interfaces with external systems are monitored and periodically reviewed for performance, security, and quality attributes.

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Acquisition Activities Checklist

- ☑ Responsibility for oversight of acquired products and services is explicitly identified, and authorities are delegated.
- ☑ Individuals responsible for the acquisition receive periodic training or orientation on the technology and the business domain (policies), as appropriate.
- ☑ Performance of external providers is periodically evaluated and/or supervised against the goals stated in the Operations Project Plan (operations or maintenance support contractor).
- ☑ All technology purchases conform to the Agency Technical Architecture and other acquisition regulations as appropriate.
- ☑ Manage the solicitation and contractor formation phase to assure that competition and best value goals are achieved.
- ☑ The Contracting Strategy Document is reviewed and updated as technology changes and as other needs are defined.
- ☑ The Contractor Management Plan is reviewed and updated as technology changes and as other needs are defined.
- ☑ Contractor status reports are received and reviewed periodically, and actions are tracked to closure.

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Support Activities Checklist

- ☑ Individuals on the Quality Assurance Team have both business process domain and technical domain knowledge. They receive periodic orientations, as needed, to ensure they understand the business and technical environment.
- ☑ The Quality Assurance Team participates in the process of creating operations plans and defines key QA activities conforming to the objectives stated in the Operations Project Plans.
- ☑ The Quality Assurance Team periodically reviews and audits technical operations actions against the key procedures identified in the Operations Project Plan-identifying, reporting, and overseeing the resolution of any noted deficiencies.
- ☑ The Quality Assurance Team reviews staff skills and knowledge to ensure that those performing technical operation activities have the prerequisite skills and knowledge to perform their assignments effectively.
- ☑ The Quality Assurance Team conducts periodic reviews to measure the effectiveness and efficiency of the operational systems (usage assessments or surveys)-compiling and reporting results to executive management.
- ☑ The Quality Assurance Team collects and reports measures of defects identified and corrected during operations.
- ☑ The Quality Assurance Team identifies consequences associated with various types of defects to ensure appropriate prioritization of defect resolutions.
- ☑ The Quality Assurance Team reviews key business work products, such as reports or notices, to make sure they are reasonable and correct (e.g., policy references on notices for denied cases). These reviews may be generated on a periodic basis (e.g., generating reports daily, weekly, monthly, quarterly, or annually) or on a significant-event basis (e.g., policy changes).
- ☑ The Configuration Management Team maintains the integrity of the installed platforms, equipment, applications, and data as the IT infrastructure undergoes changes in the operational environments.
- ☑ The Configuration Management Team performs reviews or audits of the installed applications to ensure that only approved changes to the operational configuration are made (e.g., licenses and product versions).
- ☑ The Configuration Management Team backs up the software or data prior to an upgrade; they can restore the system to that save point, if needed.
- ☑ The Configuration Management Team backs up the software or data immediately after an upgrade; they can restore the system to that save point, if needed.

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